

**WHAT IS CLAIMED IS:**

1. A flat panel display device, comprising:

a data converter having a look-up table and inputted with Red, Green and Blue N-bit digital data signals, the data converter converting the Red, Green and Blue N-bit digital data signals into Red, Green and Blue M-bit digital data signals, respectively, referring to the look-up table, wherein each of N and M is an integer, M is greater than N, and each of the Red, Green and Blue M-bit digital data signals corresponds to a gray scale number;

a gamma voltage generator generating a plurality of gamma voltages corresponding to the gray scale numbers; and

a data driving circuit inputted with the gamma voltages, the data driving circuit converting the Red, Green and Blue M-bit digital data signals into Red, Green and Blue analog video signals, respectively, and applying the Red, Green and Blue analog video signals to respective Red, Green and Blue pixels.

2. The flat panel display device according to claim 1, further includes a timing controller outputting the Red, Green and Blue N-bit digital data signals to the data converter.

3. The flat panel display device according to claim 1, wherein the data driving circuit includes the gamma voltage generator.

4. The flat panel display device according to claim 1, wherein the gray scale numbers of the Red, Green and Blue M-bit digital data signals are different from each other.

5. The flat panel display device according to claim 4, wherein the gray scale number of the Red M-bit digital data signal is greater than the gray scale numbers of the Green and Blue digital data signals.

6. The flat panel display device according to claim 5, wherein the gray scale number of the Green M-bit digital data signal is greater than the gray scale number of the Blue digital data signal.
7. The flat panel display device according to claim 3, wherein the Red analog data signal applied to the respective pixel has a voltage level ranged in about 0V to about 5V.
8. The flat panel display device according to claim 7, wherein the Green analog video signal applied to the respective pixel has a voltage level ranged in about 0V to about 2.5V.
9. The flat panel display device according to claim 7, wherein the Blue analog video signal applied to the respective pixel has a voltage level ranged in about 0V to about 1.9V.
10. The flat panel display device according to claim 1, wherein each of the pixels is an electro-luminescence cell.
11. A method of driving a flat panel display device, comprising:
  - receiving Red, Green and Blue N-bit digital data signals;
  - converting the Red, Green and Blue N-bit digital data signal into Red, Green and Blue M-bit digital data signals, respectively, wherein each of N and M is an integer, M is greater than N, and each of the Red, Green and Blue M-bit digital data signals corresponds to a gray scale number;
  - converting the Red, Green and Blue M-bit digital data signals into Red, Green and Blue analog video signals, respectively; and
  - applying the Red, Green and Blue analog video signals to respective Red, Green and Blue pixels.

12. The method according to claim 11, wherein the gray scale numbers of the Red, Green and Blue M-bit digital data signals are different from each other.
13. The method according to claim 12, wherein the gray scale number of the Red M-bit digital data signal is greater than the gray scale numbers of the Green and Blue digital data signals.
14. The method according to claim 13, wherein the gray scale number of the Green M-bit digital data signal is greater than the gray scale number of the Blue digital data signal.
15. The method according to claim 11, the step of converting the Red, Green and Blue M-bit digital data signals into Red, Green and Blue analog video signals further includes:
  - generating a plurality of different gamma voltages corresponding to the gray scale numbers using a gamma voltage generator.
16. The method according to claim 15, wherein the Red analog video signal applied to the respective pixel has a voltage level ranged in about 0V to about 5V.
17. The method according to claim 15, wherein the Green analog video signal applied to the respective pixel has a voltage level ranged in about 0V to about 2.5V.
18. The method according to claim 15, wherein the Blue analog video signal applied to the respective pixel has a voltage level ranged in about 0V to about 1.9V.
19. The method according to claim 11, wherein each of the pixels is an electroluminescence cell.
20. The method according to claim 11, wherein each of the pixels is a liquid crystal

display cell.

21. A method of driving a flat panel display device having a pixel, comprising:
  - receiving a N-bit digital data signal;
  - converting the N-bit digital data signal into a M-bit digital data signal, wherein each of N and M is an integer and M is greater than N;
  - converting the M-bit digital data signal into an analog video signal; and
  - applying the analog video signal to the pixel.
22. The method according to claim 21, converting the N-bit digital data signal into a M-bit digital data signal further includes referring to a look-up table.
23. The method according to claim 22, converting the M-bit digital data signal into an analog video signal further includes generating a gamma voltage using a gamma voltage generator.
24. A flat panel display device having a pixel, comprising:
  - a data converter inputted with a N-bit digital data signal for converting the N-bit digital data signal into a M-bit digital data signal, wherein each of N and M is an integer and M is greater than N; and
  - a data driving circuit inputted with the M-bit digital data signal for generating an analog video signal and applying the analog video signal to the pixel.
25. The flat panel display device according to claim 24, wherein the data converter further includes a look-up table.
26. The flat panel display device according to claim 25, wherein the data converter converts the N-bit digital data signal into the M-bit digital data signal using the look-up table, wherein the M-bit digital data signal corresponds to a gray scale number.

27. The flat panel display device according to claim 26, further includes a gamma voltage generator for generating a gamma voltage corresponding to the gray scale number and outputting the gamma voltage to the data driving circuit.

28. The flat panel display device according to claim 24, further includes a timing controller for outputting the N-bit digital data signal to the data converter.

29. The flat panel display device according to claim 27, wherein the pixel is an electroluminescence cell.

30. The flat panel display device according to claim 27, wherein the pixel is a liquid crystal display cell.